Storm Racing Drone (Type A)
with Naza Lite GPS Flight Controller

USER MANUAL

V2.0

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DISCLAIMER

Please read this disclaimer carefully before using this product. This product is a hobby with motors but not a toy which is not suitable for people under the age of 18. By using this product, you hereby agree to this disclaimer and signify that you have read them fully. You agreed that you are responsible for your own conduct and content while using this product, and for any consequences thereof.

Before you fly the drone

1) Make sure all connections are good, and keep children and animals away during flying, firmware update, system calibration and parameter setup.

2) Always fly the drone away from unsafe conditions, such as obstacles, crowds, high-voltage lines, etc.

3) Do not use in bad weathers such as rainy day, snow, windy (more than moderate breeze), hail, lighting, tornadoes, hurricanes etc.

4) Check whether the propellers and the motors are installed correctly and firmly before flight. Make sure the rotation direction of each propeller is correct.

5) Check whether all parts of the drone are in good condition before flight. Do not fly with aging or broken parts.

6) Never overcharge LiPo batteries. Do not charge above 4.2V per cell. When the battery is fully charged, disconnect it from the charger. Never leave the battery charger unattended during charging.

7) Never discharge batteries to below 3.3V per cell

8) Remove batteries when not using the drone.

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Package includes:

1. Fully Assembled Storm Racing Drone GPS w/ DJI NAZA-M Lite GPS System
2. Built-in FPV System (Camera and Transmitter)
3. Storm OSD Module (Overlay flight data information)
4. RadioLink AT9 9-Channel Transmitter w/ R9D 10-Channel S.Bus Receiver
5. 14.8V 2200mah 30C Li-Po Battery
6. 6pcs Clockwise 6045 Dual-Blade Propeller (4 of them are spare parts)
7. 6pcs Counter-Clockwise 6045 Dual-Blade Propeller (4 of them are spare parts)
8. SKYRC E4 Battery Charger
9. 1.5 mm Hex Wrench
10. 2.0 mm Hex Wrench
11. 10mm Hex Nut Driver Driver (for motor cap)
12. 5.5mm Hex Nut Cross Wrench (for airframe)
13. Battery Warning Buzzer

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Quick Start

1. Switch G : Up for GPS mode
Up
G
Down
2. Throttle Down
Mode 2 : Left Stick
3. Power On
4. Stand up GPS Antenna
5. Check Battery Level
4.2V per cell = Full
(Set alarm to 3.6V or above)
6. Put the drone in an open area with Good GPS Signal
and connect battery to the drone
7. Wait for around 1 minute until Green LED
flash rapidly, that means GPS signal is ok and
ready to fly.
8. Unlock the system (Left stick : Lower Left ; Right stick : Lower Right)
9. Rotors are spinning, you can fly now
10. When the Drone's LED is flashing Red (Low battery), please land asap

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Control

MODE 2 (LEFT THROTTLE)
Standard

MODE 1 (RIGHT THROTTLE)

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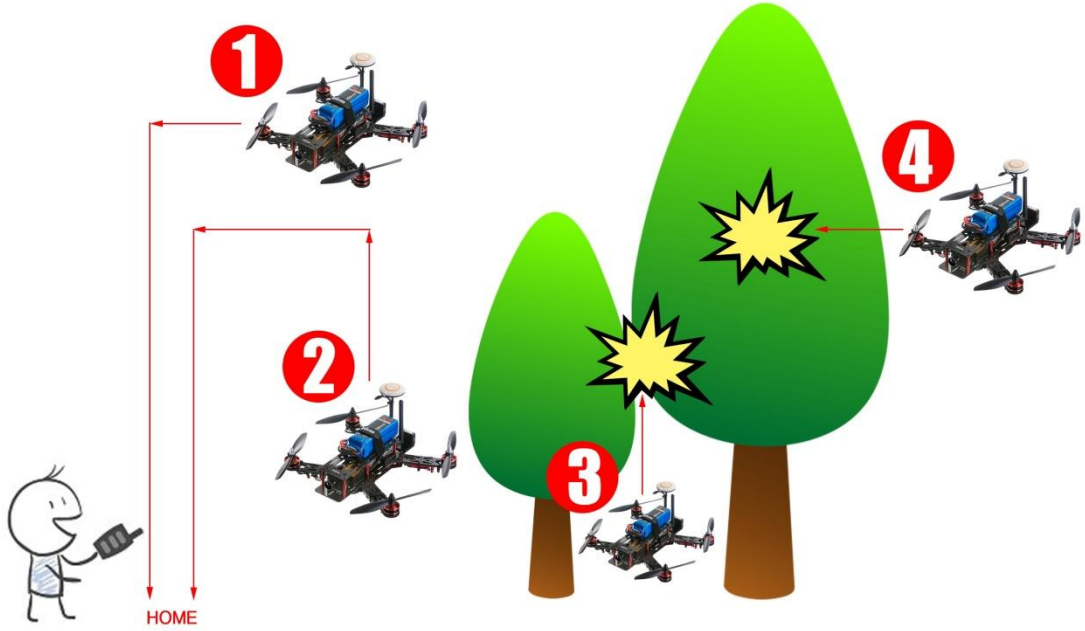
Auto Go Home

If the drone has been started up correctly and the GPS signal is good (with 6 or more satellites are found), the drone can undergo Go-Home features when it lost signal with radio controller



1) If the attitude of the drone more than 20 meters, it will go home horizontally.
2) If the attitude of the drone below 20 meters, it will ascend to 20 meters and go home horizontally.
3) If the attitude of the drone is below 20 meters and behind an object, there is high risk of crash during ascends.
4) If the drone go home path is blocked by object, there is high risk of crash during "auto-go home" process.

Important - How to take over the control again during "Auto Go Home"

When the drone is undergoing auto go home feature, you can take over the control again by performing the following procedures.

If the transmitter is on, push the throttle stick to middle position and then switch the **G** Switch **Down(towards you)** and **Up(away from you)** and you can control the drone again.

If the transmitter is off, push throttle stick to down position, turn on the transmitter, push throttle to middle, switch the **G** switch **Down(towards you)** and **Up(away from you)** to take over the control again.

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Compass Calibration

Please follow the following procedures to calibrate the compass calibration

1) Switch the **G switch** up and down quickly for 6 to 10 times, The LED indicator on the drone will turn on constantly yellow.

2) (Fig.1) Hold your Multi-rotor horizontal and rotate it around the gravitational force line (about 360^{o}) until the LED on the drone changes to constant green, and then go to the next step.

3) (Fig.2) Hold your Multi-rotor vertically and rotate it (nose down & tail up) around the gravitational force line (about 360 ^{o}) until the LED turns off, meaning the calibration is finished

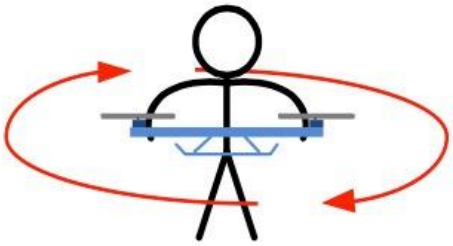

Fig.1

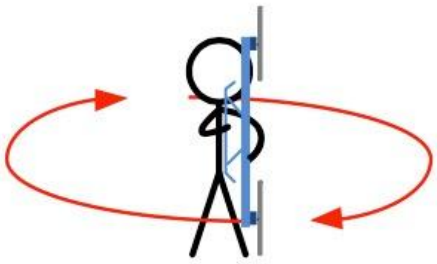

Fig.2

4) If the calibration was successful, calibration mode will exit automatically.

5) If the LED keeps flashing quickly Red, the calibration has failed. Switch the control mode switch one time to cancel the calibration, and then re-start from step 2.

NAZA-M Lite User Manual

It is important to learn more about the NAZA-M Lite GPS Controller. You can download the manual here:
http://download.dji-innovations.com/downloads/naza-m%20lite/en/NAZA-M%20LITE_User_Manual_v2.00_en.pdf

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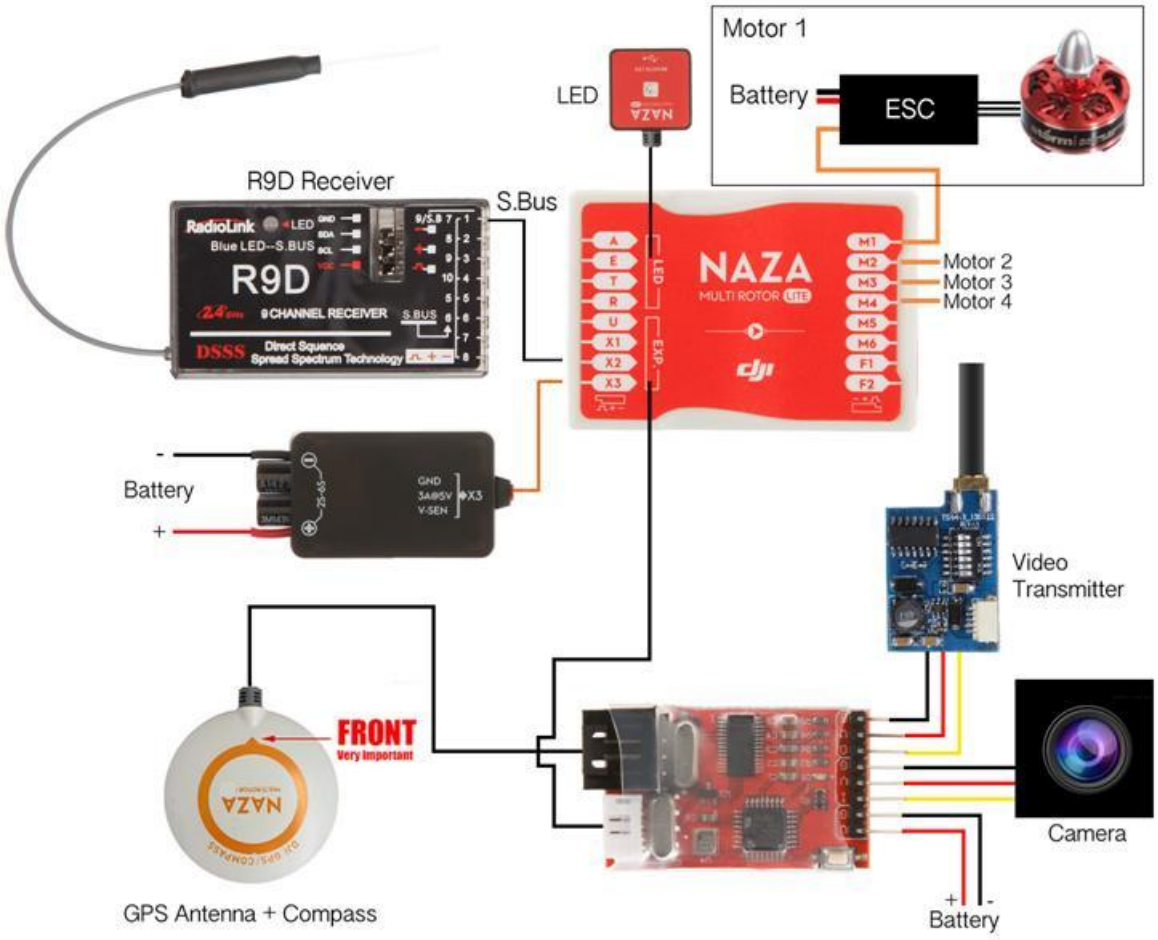
Circuit Diagram



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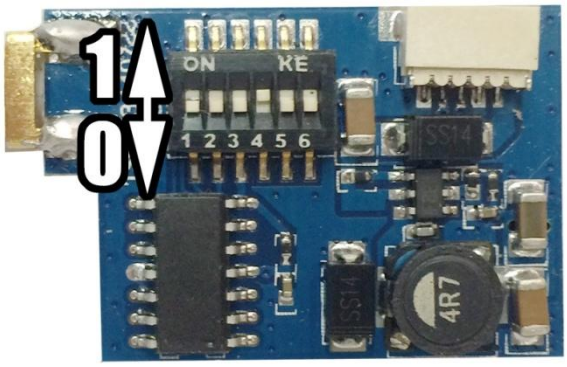
FPV System

Our TS5823 video transmitter has up to **32** different video channels available to avoid interference with other channels.



If two or more drones are flying at the same time, try to select different video frequency to avoid video interference. The bigger different in video frequency between drones, the less interference generated.

Default Setting is channel **5665M**.

Always check the supported channels of you FPV reception devices such as monitor, goggle

Frequency Table

Frequency	Switch (123456)	Frequency	Switch (123456)
5645MHz	001100	5805MHz	001110
5665MHz	101100 **(Default Channel)**	5809MHz	110010
5685MHz	011100	5820MHz	110000
5705MHz	111100	5825MHz	101110
5725MHz	000110	5828MHz	010010
5733MHz	111010	5840MHz	010000
5740MHz	111000	5845MHz	011110
5745MHz	100110	5847MHz	100010
5752MHz	011010	5860MHz	100000
5760MHz	011000	5865MHz	111110
5765MHz	010110	5866MHz	000010
5771MHz	101010	5880MHz	000000
5780MHz	101000	5885MHz	110100
5785MHz	110110	5905MHz	010100
5790MHz	001010	5925MHz	100100
5800MHz	001000	5945MHz	000100

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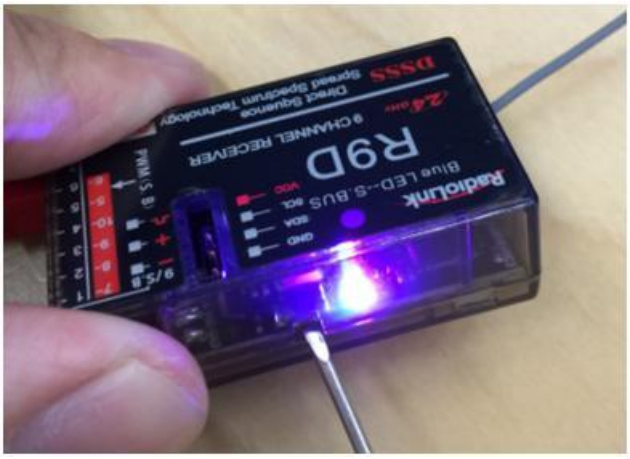
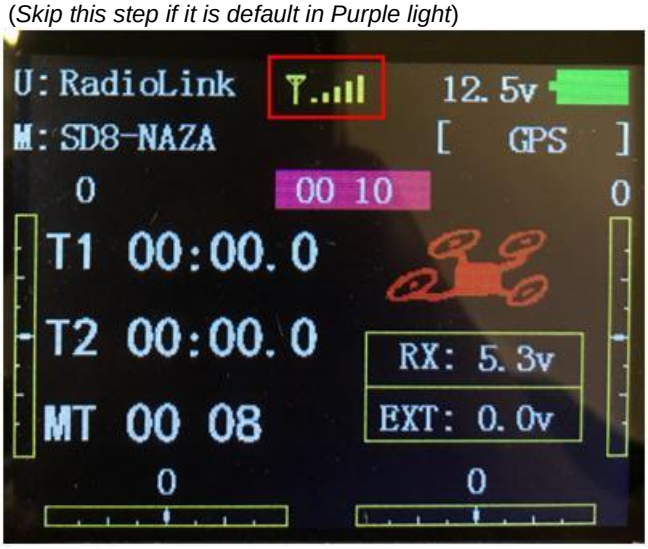
FAQ

Lost connection with radio controller

If you're the drone cannot response to the radio controller stick travel, the connection between radio controller and receiver may lost and you can try to re-bind them by following the procedure below:



Press the switch inside the receiver **twice** with small screwdrivers to make LED indicator turns **PURPLE** to set the control mode to D Bus Mode. (*Skip this step if it is default in Purple light*)



Use the small screwdrivers to press and hold the switch inside the receiver until it is flashing with light in **Blue** and **Purple**, Switch on the radio controller, it will start searching for available receiver. Receiver will stop flashing while the bind process complete and the radio controller will the signal strength on the screen

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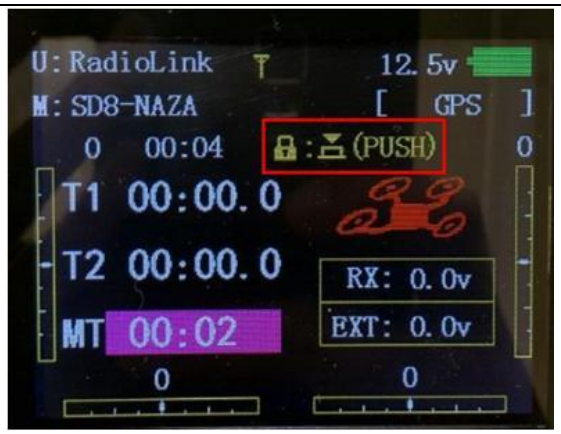
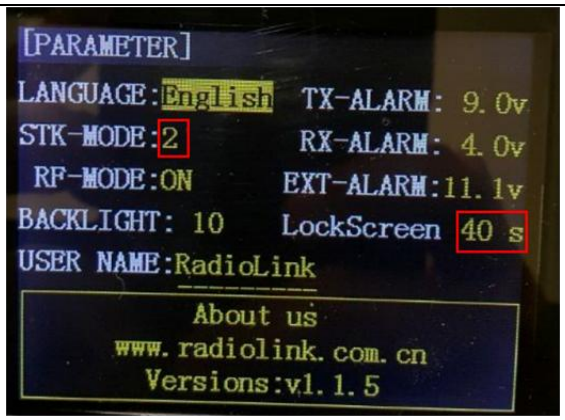
Radio Controller Parameters

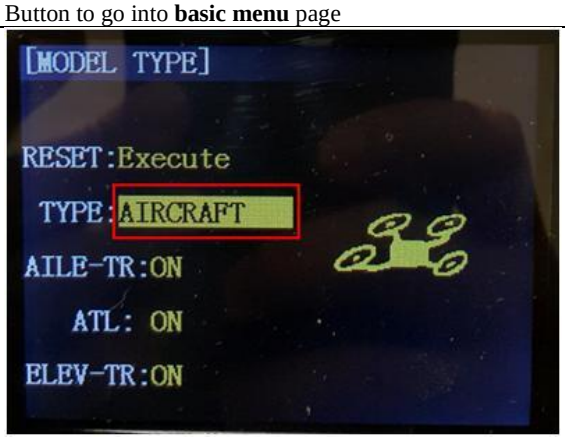
If you reset your radio controller (AT9) setting, you can apply the setting below:



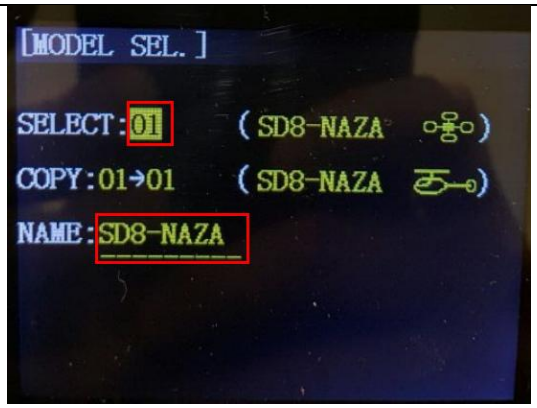
1) Press and Hold the controller wheel (With wordings "**PUSH**") to unlock the manual. Press and Hold **Mode** Button to go into **basic menu** page



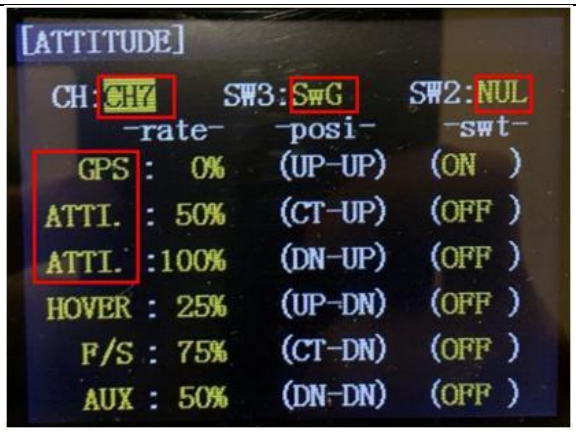
2) **[STK-MODE] = 2** (Stick Mode)
[LockScreen] = 30s (Time to lock screen)



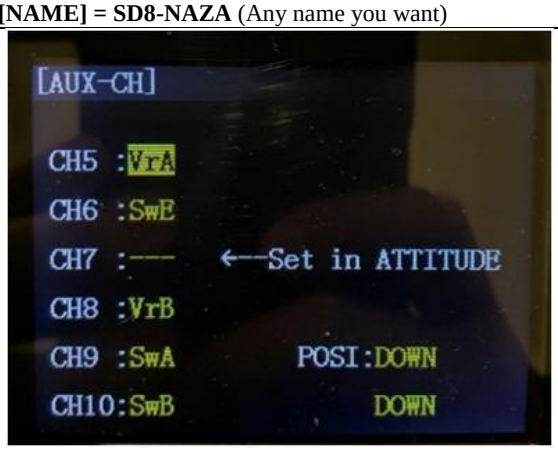
3) **[TYPE] = AIRCRAFT**



4) **[SELECT] = 01**
[NAME] = SD8-NAZA (Any name you want)


[ATTITUDE]
CH:CH7 SW3:SwG SW2:NUL
-rate- -posi- -swt-
GPS : 0% (UP-UP) (ON)
ATTI. : 50% (CT-UP) (OFF)
ATTI. :100% (DN-UP) (OFF)
HOVER : 25% (UP-DN) (OFF)
F/S : 75% (CT-DN) (OFF)
AUX : 50% (DN-DN) (OFF)

5) Go to **[AUX-CH]** -> **ATTITUDE**, apply the setting below:
[CH] = CH7 [SW3] = SwG [SW2] = NULL
[GPS] = 0% [ATTI.] = 50% [ATTI.] = 100%



6) **[CH5] = VrA [CH6] = SwE [CH7] = -------**
[CH8] = VrB [CH9] = SwA [CH10] = SwB

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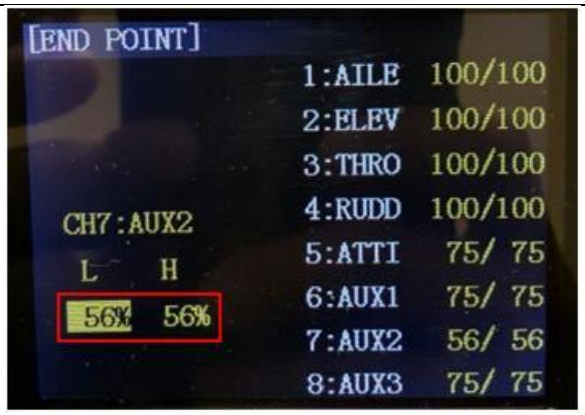
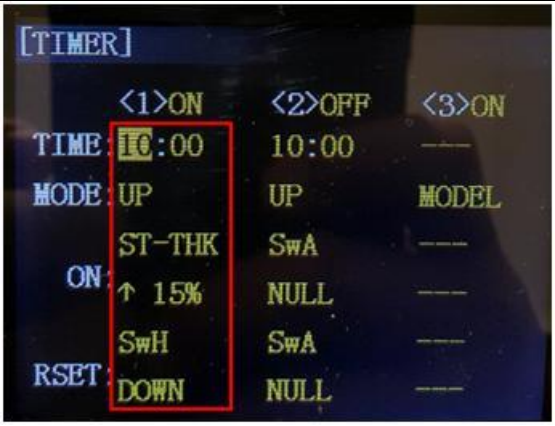


7) **[CH7]->[L]= 56% (**Move the toggle Switch **G** to lowest**)**
[CH7]->[H]= 56% (Move the toggle Switch **G** to highest**)**

8) **[AUX2] = -13**

9) **[AUX2] = REV**



10) **[1] [TIME] = 10:00**
[1] [MODE] = UP
[1] [ON][1] = ST-THK (Using Throttle Stick to start the timer)
[1][ON] [2] = 15% (Move the indicator over the value, set throttle stick to around 15%, Press and hold "Push" button to recognize the throttle value and move the wheel to change the arrow sign)
[1][RESET] [1] = SwH (Using Switch H to responsible for the reset timer action)
[1][RESET] [2] = DOWN (Using Switch H's down action to reset the timer)

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